Health Consequences of Infection with Multi-Drug Resistant and Pan-Susceptible *Salmonella* Newport Reported to FoodNet – United States, 2002-2003

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Background Multidrug-resistant strains of *Salmonella* Newport (MDRAmpC) resistant to nine antimicrobial agents and with decreased susceptibility to ceftriaxone have become more common in the U.S. These strains accounted for 25% of *S* . Newport isolates reported to the National Antimicrobial Resistance Monitoring System in 2001. We examined whether MDRAmpC strains cause more severe illness than pansusceptible strains.

Methods In 2002-2003 FoodNet conducted a telephone case-control study of *S.* Newport in eight sites. We interviewed and abstracted hospital records of patients with non-outbreak associated *S.* Newport infection. Isolates underwent antimicrobial susceptibility testing according to NCCLS guidelines. We compared people with MDRAmpC strains (ceftriaxone MIC 4-32 mcg/ml) to those with pansusceptible strains.

Results Data were available from 28 MDRAmpC and 108 pansusceptible cases during the 12-month study period. MDRAmpC patients more often had an underlying immunosuppressive condition, such as HIV, steroid use, or an organ or bone marrow transplant, than patients with pansusceptible strains (21% and 8%, respectively, OR 3.0, 95% CI 0.8-10.6). Median duration of diarrhea was 7 days in both groups. Of MDRAmpC patients, 18/26 (69%) required intravenous fluids, compared with 42/107 (39%) pansusceptible patients (OR 3.5; 95% CI 1.3-9.8); hospitalization was required in 13/28 (46%) and 31/108 (29%) patients respectively (OR 2.2, 95% CI 0.8-5.5). Median duration of hospitalization was 4 days (range 1-7) for MDRAmpC and 3 days (range 1-58) for pansusceptible patients (p=0.4). Of OfOf MDRAmpC cases, 20/26 (77%) were treated with an antibiotic, compared with 71/108 (66%) pansusceptible cases (OR 1.6, 95% CI 0.5-4.8). Of the MDRAmpC cases only 1/ 20 (5%) received an antibiotic to which their isolate was resistant. No patients in either group died.

Conclusions Patients with multidrug-resistant *S.* Newport infections tended to have more severe illness than patients with pansusceptible infections, possibly because resistant infections occur disproportionately in those with co-morbid medical conditions. Efforts should be made to reduce transmission of resistant *Salmonella* .